

CLAIMS

What is claimed is:

1. A method of inventory control comprising the steps of:

providing inventory item attributes comprising data elements in computer memory, wherein the inventory item attributes describe an inventory item, the
5 inventory item has an RFID identification tag having an RFID identification tag code, and the inventory item attributes comprise:

an RFID identification tag code field,
a control value,
10 an acceptable control value range, and
an out of range action;

detecting changes in the inventory item attributes, wherein detecting changes
in inventory item attributes includes reading, through an RFID reader, the
15 RFID identification code from the RFID tag associated with the inventory item;

recording detected changes in inventory item attributes;

20 comparing the control value and the acceptable control value range; and

taking action in dependence upon the result of the comparing and the out of range action.

2. The method of claim 1 wherein the steps of detecting changes, recording detected changes, comparing the control value and the acceptable control value range, and taking action are carried out through Java servlets in at least one OSGI-compliant service bundle installed and operating in an OSGI-compliant service gateway.
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3. The method of claim 1 wherein:
- the inventory item attributes further comprise a control value unit field set to ‘pounds’;
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- detecting changes includes reading the weight of the inventory item from a scale; and
- recording detected changes comprises storing the weight of the inventory item in the control value.
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4. The method of claim 1 wherein:
- the inventory item attributes further comprise a control value unit field set to ‘freshness’;
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- detecting changes in the inventory attributes of the inventory item further comprises:

- 10 reading from a clock the time when the inventory item is removed
from a refrigerator,
- reading the temperature from a kitchen thermometer,
- 15 reading from the clock the time when the inventory item is returned to
the refrigerator, and
- calculating a freshness coefficient in dependence upon the time when
removed, the time when returned, and the temperature; and
- 20 recording detected changes comprises storing the freshness coefficient in the
control value.
5. The method of claim 1 wherein:
- the inventory item attributes further comprise a control value unit field set to
'utilization';
- 5 detecting changes in the inventory attributes of the inventory item includes
detecting that the inventory item has been removed from and returned to an
inventory storage location; and
- 10 recording detected changes comprises incrementing the control value, wherein
the control value represents the number of times the inventory item has been
utilized.

6. The method of claim 1 wherein:

the inventory item comprises a quantity of separate items;

5 the inventory item attributes further comprise a control value unit field set to 'count';

10 detecting changes in the inventory attributes includes detecting that one of the separate items has been removed from inventory, and

recording detected changes comprises decrementing the control value, wherein the control value represents the quantity of separate items.

7. The method of claim 1 wherein:

the inventory item attributes further comprise:

5 a control value unit field set to 'days', and
an inventory date representing the date when the inventory item entered inventory;

detecting changes comprises:

10 reading from a clock the current date, and

calculating the age of the inventory item in dependence upon the current date and the inventory date; and

- 15 recording detected changes comprises storing the age of the inventory item in the control value.
8. The method of claim 1 wherein taking action comprises emailing an order to a vendor to reorder the inventory item when the control value is outside the acceptable control value range.
9. The method of claim 1 wherein taking action comprises emailing a message to a user advising the user to discard the inventory item when the control value is outside the acceptable control value range.
10. The method of claim 1 wherein taking action comprises sending, through HTTP and through a vendor service gateway directly to a vendor's online order system, an HTML order for the inventory item when the control value is outside the acceptable control value range.

11. A system of inventory control comprising:

means for providing inventory item attributes comprising data elements in
5 computer memory, wherein the inventory item attributes describe an inventory
item, the inventory item has an RFID identification tag having an RFID
identification tag code, and the inventory item attributes comprise:

10 an RFID identification tag code field,
a control value,
an acceptable control value range, and
an out of range action;

15 means for detecting changes in the inventory item attributes, wherein means
for detecting changes in inventory item attributes include means for reading
through an RFID reader, the RFID identification code from the RFID tag
associated with the inventory item;

20 means for recording detected changes in inventory item attributes;

means for comparing the control value and the acceptable control value range;
and

25 means for taking action in dependence upon the result of the comparing and
the out of range action.

12. The system of claim 11 wherein the means for detecting changes, means for recording detected changes, means for comparing the control value and the acceptable control value range, and means for taking action are carried out through Java servlets in at least one OSGI-compliant service bundle installed and operating in an OSGI-compliant service gateway.
13. The system of claim 11 wherein:
- the inventory item attributes further comprise a control value unit field set to 'pounds';
- means for detecting changes includes means for reading the weight of the inventory item from a scale; and
- means for recording detected changes comprises means for storing the weight of the inventory item in the control value.
14. The system of claim 11 wherein:
- the inventory item attributes further comprise a control value unit field set to 'freshness';
- means for detecting changes in the inventory attributes of the inventory item further comprises:
- means for reading from a clock the time when the inventory item is removed from a refrigerator,

means for reading the temperature from a kitchen thermometer,

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means for reading from the clock the time when the inventory item is
returned to the refrigerator, and

means for calculating a freshness coefficient in dependence upon the
time when removed, the time when returned, and the temperature; and

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means for recording detected changes comprises means for storing the
freshness coefficient in the control value.

15. The system of claim 11 wherein:

the inventory item attributes further comprise a control value unit field set to
'utilization';

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means for detecting changes in the inventory attributes of the inventory item
includes means for detecting that the inventory item has been removed from
and returned to an inventory storage location; and

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means for recording detected changes comprises means for incrementing the
control value, wherein the control value represents the number of times the
inventory item has been utilized.

16. The system of claim 11 wherein:

the inventory item comprises a quantity of separate items;

5 the inventory item attributes further comprise a control value unit field set to 'count';

10 means for detecting changes in the inventory attributes includes means for detecting that one of the separate items has been removed from inventory; and
means for recording detected changes comprises means for decrementing the control value, wherein the control value represents the quantity of separate items.

17. The system of claim 11 wherein:

the inventory item attributes further comprise:

5 a control value unit field set to 'days', and
an inventory date representing the date when the inventory item entered inventory;

means for detecting changes comprises:

10 means for reading from a clock the current date, and

means for calculating the age of the inventory item in dependence upon the current date and the inventory date; and

- 15 means for recording detected changes comprises means for storing the age of the inventory item in the control value.
18. The system of claim 11 wherein means for taking action comprises means for emailing an order to a vendor to reorder the inventory item when the control value is outside the acceptable control value range.
19. The system of claim 11 wherein means for taking action comprises means for emailing a message to a user advising the user to discard the inventory item when the control value is outside the acceptable control value range.
20. The system of claim 11 wherein means for taking action comprises means for sending, through HTTP and through a vendor service gateway directly to a vendor's online order system, an HTML order for the inventory item when the control value is outside the acceptable control value range.

21. A computer program product of inventory control comprising:

a recording medium;

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means, recorded on the recording medium, for providing inventory item attributes comprising data elements in computer memory, wherein the inventory item attributes describe an inventory item, the inventory item has an RFID identification tag having an RFID identification tag code, and the inventory item attributes comprise:

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an RFID identification tag code field,
a control value,
an acceptable control value range, and
an out of range action;

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means, recorded on the recording medium, for detecting changes in the inventory item attributes, wherein means, recorded on the recording medium, for detecting changes in inventory item attributes include means for reading, through an RFID reader, the RFID identification code from the RFID tag associated with the inventory item;

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means, recorded on the recording medium, for recording detected changes in inventory item attributes;

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means, recorded on the recording medium, for comparing the control value and the acceptable control value range; and

30 means, recorded on the recording medium, for taking action in dependence upon the result of the comparing and the out of range action.

22. The computer program product of claim 21 wherein the means for detecting changes, means for recording detected changes, means for comparing the control value and the acceptable control value range, and means for taking action are carried out through Java servlets in at least one OSGI-compliant service bundle installed and operating in an OSGI-compliant service gateway.

23. The computer program product of claim 21 wherein:

the inventory item attributes further comprise a control value unit field set to 'pounds';

5 means, recorded on the recording medium, for detecting changes includes means, recorded on the recording medium, for reading the weight of the inventory item from a scale; and

10 means, recorded on the recording medium, for recording detected changes comprises means, recorded on the recording medium, for storing the weight of the inventory item in the control value.

24. The computer program product of claim 21 wherein:

the inventory item attributes further comprise a control value unit field set to 'freshness';

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means, recorded on the recording medium, for detecting changes in the inventory attributes of the inventory item further comprises:

10 means, recorded on the recording medium, for reading from a clock the time when the inventory item is removed from a refrigerator,

means, recorded on the recording medium, for reading the temperature from a kitchen thermometer,

15 means, recorded on the recording medium, for reading from the clock the time when the inventory item is returned to the refrigerator, and

20 means, recorded on the recording medium, for calculating a freshness coefficient in dependence upon the time when removed, the time when returned, and the temperature; and

means, recorded on the recording medium, for recording detected changes comprises means, recorded on the recording medium, for storing the freshness coefficient in the control value.

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25. The computer program product of claim 21 wherein:

the inventory item attributes further comprise a control value unit field set to 'utilization';

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means, recorded on the recording medium, for detecting changes in the inventory attributes of the inventory item includes means, recorded on the

recording medium, for detecting that the inventory item has been removed from and returned to an inventory storage location; and

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means, recorded on the recording medium, for recording detected changes comprises means, recorded on the recording medium, for incrementing the control value, wherein the control value represents the number of times the inventory item has been utilized.

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26. The computer program product of claim 21 wherein:

the inventory item comprises a quantity of separate items;

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the inventory item attributes further comprise a control value unit field set to 'count';

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means, recorded on the recording medium, for detecting changes in the inventory attributes includes means, recorded on the recording medium, for detecting that one of the separate items has been removed from inventory; and

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means, recorded on the recording medium, for recording detected changes comprises means, recorded on the recording medium, for decrementing the control value, wherein the control value represents the quantity of separate items.

27. The computer program product of claim 21 wherein:

the inventory item attributes further comprise:

5 a control value unit field set to 'days', and
an inventory date representing the date when the inventory item
entered inventory;

means, recorded on the recording medium, for detecting changes comprises:

10 means, recorded on the recording medium, for reading from a clock the
current date, and

means, recorded on the recording medium, for calculating the age of
the inventory item in dependence upon the current date and the
15 inventory date; and

means, recorded on the recording medium, for recording detected changes
comprises means, recorded on the recording medium, for storing the age of the
inventory item in the control value.

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28. The computer program product of claim 21 wherein means, recorded on the
recording medium, for taking action comprises means, recorded on the
recording medium, for emailing an order to a vendor to reorder the inventory
item when the control value is outside the acceptable control value range.

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29. The computer program product of claim 21 wherein means, recorded on the
recording medium, for taking action comprises means, recorded on the
recording medium, for emailing a message to a user advising the user to
discard the inventory item when the control value is outside the acceptable
5 control value range.

30. The computer program product of claim 21 wherein means, recorded on the recording medium, for taking action comprises means, recorded on the recording medium, for sending, through HTTP and through a vendor service gateway directly to a vendor's online order system, an HTML order for the inventory item when the control value is outside the acceptable control value range.
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